

REMARKS

In the patent application, claims 1-30 are pending. In the office action, all pending claims are rejected.

5 Applicant has canceled claims 1, 2, 18, 19, 24 and 26, and amended claims 3, 4, 6, 8, 15, 20-23, 25 and 27-30.

Claim 4 has been amended to include the limitations of claims 1 and 2.

Claim 21 has been amended to include the limitations of claims 18 and 19.

Furthermore, claims 4 and 21 have been amended to include the limitation that the block
10 difference is obtained partially based on a summation of the absolute values of the differences (p.8, lines 1- 8; Figure 1, block 512).

Claims 23, 25, 27-30 have been amended to claim a computer readable medium as suggested by the Examiner. Claim 23 has been amended to be dependent from 1.

15 Claims 3, 6, 8, 15, 20, 22, 25, 27, 28 and 29 have been amended to change the claim dependency and/or to remove some unnecessary wording.

No new matter has been introduced.

At section 2 of the office action, claims 23-30 are rejected for claiming a software program. Applicant has amended claims 23-30 as suggested.

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At section 4, claims 1-7, 10-13, 15-16 and 18-30 are rejected under 35 U.S.C. 102(a) as being anticipated by *Koto et al.* (U.S. Patent Application Publication No. 2003/0215014 A1, hereafter referred to as *Koto*). The Examiner states that *Koto* discloses a video encoding method as claimed.

25 At section 6, claims 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Koto*.

Applicant respectfully disagrees.

30 Applicant has canceled claims 1, 2, 18 and 19, and amended claim 4 to include the limitations of claims 1 and 2. In addition, claim 4 has been amended to include the limitation that the block difference is obtained at least partially based on the summation of the absolute

values of the differences between corresponding individual coefficients in each of the rectangular blocks and the reference block, then the offset is optimized based on the block difference.

It is respectfully submitted that *Koto* fails to disclose or suggest this feature.

5 According to *Koto*, the predictive reference block is generated by computing a linear sum of reference blocks using weighting factors (paragraph [0012]). As shown in Figure 1, the reference blocks are summed by a predictive macroblock generator 119 by an adder to form a predictive macroblock (132, for example) before the predictive macroblock is subtracted from the input video signal 100 by the subtractor 110 in order to obtain the prediction error
10 signal 101. In *Koto*, the input video signal 100 can be considered as containing the current blocks and the prediction error signal 101 can be considered as a block difference. Thus, according to *Koto*, the reference blocks are linearly combined first to form a weighted predictive block. The weighted predictive block is then used to compare with the current block for obtaining the block difference.

15 In the claimed invention, the block difference is obtained differently. It is obtained partially from a summation of the absolute values of the differences between corresponding individual coefficients in each of the rectangular blocks of coefficients and at least one reference block of coefficients. According to the claimed invention, the absolute values of the differences between corresponding individual coefficients in each of the rectangular
20 blocks of coefficients and at least one reference block of coefficients are obtained first, and the summation is then carried out to obtain the block difference.

Koto does not disclose or even suggest obtaining the block difference using the claimed method. The encoder as disclosed in Figures 1, 2, 3, 8 and 9 cannot be used to obtain the difference between the current block and each of the reference frames first and
25 then to obtain the block difference by summing those differences. Moreover, those encoders cannot be used to obtain the absolute values of the differences before summation.

For the above reasons, *Koto* fails to anticipate claims 4 and 21.

As for claims 3, 5, 6, 7, 10 – 13, 15, 16, 17, 22, 23, 25, 27-30, they are dependent from
30 claims 4 and 21. For reasons regarding claims 4 and 21, claims 3, 5, 6, 7, 10 – 13, 15, 16, 22, 23, 25, 27-30 are also distinguishable over the cited *Koto* reference.

At section 7, claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Koto*, in view of *Wu et al.* (U.S. Patent No. 6,700,933, hereafter referred to as *Wu*). In rejecting claim 8, the Examiner admits that *Koto* fails to disclose that each of the M video frames selected as the M reference frames is computed by decoding the same frame of original video at a variety of quality settings, but points to *Wu* for disclosing that feature.

At section 8, claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Koto*, in view of *Kato et al.* (U.S. Patent No. 6,151,360, hereafter referred to as *Kato*). The Examiner cites *Kato* for disclosing a method for encoding a video signal using statistical information.

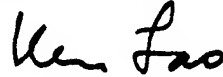
It is respectfully submitted that claims 8 and 9 are dependent from claim 4 and recite features not recited in claim 4. For reasons regarding claim 4 above, claims 8 and 9 are also distinguishable over the cited *Koto* and *Kato* references.

CONCLUSION

Claims 3-17, 20-23, 25 and 27-30 are allowable. Early allowance of Claims 3-17, 20-23, 25 and 27-30 is earnestly solicited.

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Respectfully submitted,



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